UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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Seattle, WA 98101-3140

AUG 31 2016

OFFICE OF
AIR AND WASTE

Reply to: AWT-150

Mr. Brian Anderson
Company Energy & Environmental Affairs
The Boeing Company
P.O. Box 3707, M/C 1W-12
Seattle, Washington 98124-2207

Re: Risk-based Disposal Approval for the Boeing Plant 2 Other Area 11 (OA-11) Interim Measures
TSCA ID No. WAD 00925 6819

Dear Mr. Anderson:

This letter constitutes approval under the authority of 40 Code of Federal Regulations (C.F.R.) § 761.61(c) for the cleanup, sampling and disposal of certain polychlorinated biphenyl (PCB) remediation waste at The Boeing Company (Boeing) Plant 2 facility in Seattle, Washington. More specifically, this approval authorizes Boeing to conduct the cleanup, verification sampling, and disposal of bulk PCB remediation waste associated with the Plant 2 OA-11 Interim Measure. This letter also documents the U.S. Environmental Protection Agency, Region 10 (EPA)'s evaluation of those project elements which will be conducted under requirements of 40 C.F.R. Part 761 other than § 761.61(c). This approval and the EPA's evaluation of the project under the Toxic Substance Control Act (TSCA) is wholly contingent upon EPA written approval of all phases and aspects of the project pursuant to the Resource Conservation and Recovery Act (RCRA) corrective action Administrative Order on Consent, EPA Docket No. 1092-01-22-3008(h) (Boeing Order, Reference 1[1]).

**Background**

Boeing is conducting Uplands Corrective Measures at Boeing Plant 2, located in Tukwila, Washington, pursuant to the Boeing Order (Reference 1). As outlined in the draft Upland Corrective Measures Study Volume X (CMS) submitted under the Boeing Order, Plant 2 has been divided into nine Remediation Areas (RAs). Other Area-11 (OA-11), an area of surface and subsurface soil contamination located near the southwest corner of the Plant 2 facility, is within the boundaries of RA 9. A Draft Focused Corrective Measure Study (FCMS) for OA-11 was submitted to the EPA in October 2014 (Reference 2) as required under the Boeing Order.

The RCRA program and Boeing have determined that the corrective measure for OA-11, which primarily consists of excavation of PCB-impacted soil, should be performed in summer 2016 as an interim measure to accelerate its schedule. Accelerating this action will allow Boeing to complete property improvements necessary for storm water compliance in that part of Plant 2. Because the anticipated work constitutes cleanup of bulk PCB remediation waste under TSCA, the EPA has

[1] All references are documented in Enclosure 1.

determined that the focused corrective action work at OA-11 should be jointly reviewed and approved under RCRA as an Interim Measure and under TSCA as a risk-based disposal approval (RBDA).

Development and implementation of the OA-11 Interim Measure is being conducted in a phased process. Previously, the EPA issued a written (RBDA) to conduct additional characterization sampling to supplement historical characterization data (Reference 3). This work was performed to refine the anticipated scope of cleanup, and to obtain data to be used for purposes of segregating contaminated soils for purposes of disposal. This work was also performed to obtain data that could be used to demonstrate compliance with proposed Final Media Cleanup Levels (FMCLs) where anticipated construction activities would preclude excavation sidewall sampling following Interim Measures construction. Based on the October 2014 Draft Focused Corrective Measure Study (FCMS) noted above and results of work conducted under the additional characterization approval, Boeing developed an Interim Measures work plan for OA-11. This Interim Measures work plan was provided to the EPA by Boeing as the basis for its application for an RBDA.

The EPA's Office of Land and Emergency Management (OLEM) policy states that all cleanups should be protective of human health and the environment, which extends to the environmental footprint of cleanup activities. Accordingly, the EPA requests that Boeing review Section 6 of the ASTM Standard Guide to Greener Cleanups (Active Standard ASTM E2893) to identify Best Management Practices (BMPs) which may be applicable to the OA-11 cleanup, and implement those practices which Boeing identifies as being feasible to implement. The cleanup completion report required by Condition 6 of this approval should include a section on BMP Documentation, as described in Section 6.6.5 of the ASTM Standard.

This written decision for a risk-based method for the cleanup, sampling, and disposal of PCB remediation waste is based on Boeing's application for an RBDA (Reference 8) and the documentation identified in Enclosure 1. This written decision is issued to Boeing, the owner and operator of the Plant 2 facility, who has overall responsibility for implementation of this authorized work. All sections of the RBDA application, including those referenced in this approval, are incorporated by reference.[2] In granting this approval, the EPA finds that the proposed cleanup and verification of PCB remediation waste, subject to the conditions below, will not pose an unreasonable risk of injury to health or the environment. Boeing shall ensure that activities conducted pursuant to this approval are in full compliance with conditions of the approval. The terms and conditions of this approval are established pursuant to 40 C.F.R. § 761.61(c) and are enforceable under TSCA. Any actions which deviate from the terms and conditions of this approval may result in administrative, civil, or criminal enforcement in accordance with Sections 16 and 17 of TSCA, 15 U.S.C. §§ 2615 and 2616.

[2] The Interim Measures work plan includes a discussion of the nature and extent of certain PCB contamination at the Jorgensen Forge Outfall Site (JFOS) adjoining the Boeing OA-11 area. This discussion is included for purposes of differentiating between PCB contamination associated with the OA-11 area subject to this approval, and unrelated PCB contamination associated with the JFOS. Nothing in this written approval or elements from the Interim Measure work plan incorporated into it is to be construed as establishing a decision related to any aspect of JFOS work that has been or may be made pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

**Conditions**

1. Boeing is authorized to perform cleanup, verification sampling, and disposal of bulk PCB remediation waste associated with the Other Area-11 (OA-11), as documented in Boeing's RBDA application and Interim Measures work plan (References 8 and 9), the "OA-11 PCB Excavation and Dewatering Plan," (Reference 10), and as approved by the EPA under the Boeing Order (Reference 1). This authorization is limited to those elements of the Interim Measures work plan related to cleanup of contaminated soils and storm water infrastructure, and is exclusive of those elements of the Interim Measures work plan related to cleanup of groundwater, including but not limited to selection of or verification of compliance with groundwater cleanup standards, or those elements related to institutional or engineering controls that may be selected as part of final corrective measures for OA-11. Work under this approval must be completed within six (6) months of the date of the approval. Boeing may request an extension to these dates pursuant to Condition 12.

2. Boeing is authorized to dispose of bulk PCB remediation waste, including debris, with PCB concentrations < 50 ppm, as well as cleanup wastes as described at 40 C.F.R. § 761.61(a)(5)(v), in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable.

3. Boeing is authorized to dispose of bulk PCB remediation waste, including debris, with as-found PCB concentrations ≥ 50 ppm in a hazardous waste landfill permitted by the EPA under section 3004 of RCRA, or by a State authorized under section 3006 of RCRA, or a PCB disposal facility approved under 40 C.F.R. Part 761.75.

4. All aqueous PCB remediation waste, including but not limited to groundwater in contact with bulk PCB remediation waste subject to cleanup under this approval, must be managed according to one of the following options:

    - Collected and transferred to the Boeing Field PCB Treatment System, operated by Boeing for decontamination and discharge to the King County sanitary sewer system;

    - Collected and shipped via Department of Transportation-compliant containers or tank trucks to the Marine Vacuum Services (Mar-Vac) facility in Seattle, Washington for decontamination and discharge to the King County sanitary sewer system. Boeing must provide the EPA with a copy of any sampling and analysis plans, including project-specific quality assurance/quality control requirements, associated with this option at least seven (7) calendar days prior to exercise of this option. Boeing must provide the EPA with a schematic-level description of any pre-treatment system, including secondary containment, and obtain project manager approval prior to use of any pre-treatment system;

    - Collected on-site and shipped via Department of Transportation-compliant containers or tank trucks to an off-site Facility other than Mar-Vac for decontamination as required and discharged pursuant to 40 C.F.R. § 761.79(b)(1)(ii) or (iii). Prior to exercise of this option, Boeing must provide the EPA with a copy the receiving facility's discharge authorization.

5. All equipment and structures that have been in contact with liquid or non-liquid PCB remediation waste subject to this approval must be disposed of or decontaminated following the completion of work under this approval. All disposable equipment or materials must be disposed of in a facility

permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Non-disposable equipment and structures must be decontaminated using mechanical means or pressure washing to achieve a "clean debris surface" as defined in 40 C.F.R. § 268.45, Table 1, footnote 3.

Boeing will ensure that any decontamination conducted pursuant to this approval will be in compliance with the requirements of 40 C.F.R. 761.79(e)-(g).

6. No later than 60 days following completion of field work, Boeing must provide the EPA with a written project completion report documenting compliance with requirements of this approval. This requirement may be satisfied in whole or part with reporting requirements applicable under the Boeing RCRA Order (Reference 1).

7. Boeing will ensure that all field work associated with this project conducted by Boeing or contractors is conducted under written site-specific health and safety plans. Boeing will ensure that these plans document appropriate training and personal protective equipment required for all personnel that may be exposed to PCBs during work associated with this project. Boeing will make available copies of such plans to the EPA upon request.

8. Boeing will ensure that a copy of this approval is provided to contractors responsible for conducting work subject to requirements of the approval. Boeing will ensure that any contracts it issues are consistent with the requirements of this approval. Boeing is responsible for ensuring compliance with this TSCA RBDA and all applicable requirements of 40 C.F.R. Part 761.

9. Nothing in this approval relieves Boeing of any obligation to comply with the Boeing Order, any other EPA or Ecology administrative action, or any statutory requirements, or rules or regulations applicable to the activities subject to this approval.

10. Within seven (7) days following the effective date of this approval, Boeing will provide the EPA with written or e-mail notice of its project manager responsible for overall implementation of work subject to this approval. The initial EPA TSCA project manager is identified in Condition 13. The respective project managers will be responsible for timely and routine communication regarding implementation of this approval, including notification pursuant to Condition 11. For matters otherwise reportable to the EPA RCRA project manager under the Boeing Order, concurrent notification via e-mail is acceptable and encouraged.

11. If at any time before, during, or after conduct of activities subject to this approval, Boeing possesses or is otherwise made aware of any data or information (including but not limited to site conditions that differ from those presented in the application) that activities approved herein may pose an unreasonable risk of injury to health or the environment, Boeing must report such data or information via facsimile or e-mail to the EPA within five (5) working days at the project manager level, and in writing to the Regional Administrator within thirty (30) calendar days of first possessing or becoming aware of such data or information. At his or her sole discretion, the EPA project manager may waive the written reporting requirement for those issues that are determined to be minor, or can be timely resolved without modification of this Approval. Boeing shall also report in the same manner, new or different information related to a condition or any element of the approved activities if the information is relevant to this approval. EPA may direct Boeing to take such actions it finds necessary to ensure the approved storage activities do not pose an unreasonable

risk of injury to health or the environment. Boeing shall follow such direction until written approval is obtained from the EPA that finds the condition(s) requiring such direction no longer poses an unreasonable risk of injury to health or the environment.

12. The EPA reserves the right to modify or revoke this approval based on information provided pursuant to Condition 11, or any other information available to the EPA that provides a basis to conclude that activities covered by this approval pose an unreasonable risk of injury to health or the environment. Boeing may request modification of this approval by providing a written request to the EPA. If the EPA agrees with a request for modification, the EPA will provide written approval to Boeing. Prior to obtaining written approval of a modification request, Boeing shall comply with the existing approval conditions.

13. Submissions required by this approval shall be provided to the EPA as follows:

    Mr. Timothy Hamlin, Director
    Office of Air and Waste
    EPA, Region 10
    1200 Sixth Avenue, Suite 900, MS OAW-150
    Seattle, Washington 98101
    E-mail: hamlin.tim@epa.gov
    Facsimile: (206) 553-8509

    With copies to the EPA Project Manager:

    Dr. Dave Bartus
    Office of Air and Waste
    EPA, Region 10
    1200 Sixth Avenue, Suite 900, MS OAW-150
    Seattle, Washington 98101
    E-mail: bartus.dave@epa.gov
    Facsimile: (206) 553-8509

Should you have any questions or comments, please contact Dave Bartus at (206) 553-2804, or bartus.dave@epa.gov.

Sincerely,

Timothy Hamlin
Director

Enclosures

1. References
2. Statement of Basis

cc: Mr. Will Ernst
The Boeing Company

Mr. Hideo Fujita
Ecology Northwest Regional Office

**Enclosure 1**
**References**


1) Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent, EPA Docket No. 1092-01-22-3008(h).
2) Draft Work Plan, "Uplands Corrective Measures Study Volume X: Corrective Measures Study Report – Plant 2, Attachment 1B, Focused Corrective Measure Study for OA-11", Floyd|Snider, dated October, 2014.
3) Letter, "Risk-based Disposal Approval for the Boeing Plant 2 Other Area 11 (OA-11), Additional Characterization for OA-11 Interim Measures, TSCA ID No. WAD 00925 6819," Edward J. Kowalski, Director, EPA Region 10 Office of Compliance and Enforcement to Brian Anderson, The Boeing Company, dated July 6, 2016.
4) Work Plan, "Technical Memorandum Work Plan," Floyd|Snider, dated June 10, 2016
5) E-Mail, "Boeing Plant 2-OA11 Technical Memorandum Work Plan Addendum Revision," William Ernst, The Boeing Company to Melissa Blankenship and Dave Bartus, EPA, dated July 6, 2016.
6) Work Plan, "Technical Memorandum Work Plan Addendum," Floyd|Snider, dated July 6, 2016.
7) E-mail, "Boeing Plant 2 OA-11 Technical Work Plan Addendum," Dave Bartus, EPA Region 10 to Brian Anderson and William Ernst, The Boeing Company, dated July 7, 2016.
8) Letter, "Plant 2 – OA-11 Interim Measure, 40 CFR 761.61(c) Risk-Based Disposal Approval Application and Interim Measure Work Plan Submittal, Boeing Plant 2, WAD 00925 6819, RCRA Docket #1092-01-22-3008(h)," Brian Anderson, The Boeing Company to Edward Kowalski, EPA, dated August 16, 2016.
9) Work Plan, "Boeing Plant 2, Interim Action Work Plan for OA-11," Floyd|Snider, dated August, 2016.
10) Work Plan, "OA-11 PCB Excavation and Dewatering Plan," Glacier Environmental Services, Inc., dated August 31, 2016.
11) E-mail, "reminder from today's meeting," Lynn Grochala, Floyd|Snider to Dave Bartus, EPA, dated August 29, 2016

**Enclosure 2**
**Statement of Basis**

## Introduction

Boeing is conducting Uplands Corrective Measures at Boeing Plant 2, located in Tukwila, Washington, pursuant to the Boeing Order (Reference 1). As outlined in the draft Uplands Corrective Measures Study Volume X (CMS) submitted under the Boeing Order, Plant 2 has been divided into nine Remediation Areas (RAs). Other Area-11 (OA-11), an area of surface and subsurface soil contamination located near the southwest corner of the Plant 2 facility, is within the boundaries of RA 9. A Draft Focused Corrective Measure Study (FCMS) for OA-11 was submitted to the EPA in October 2014 (Reference 2) as required under the Boeing Order.

The RCRA program and Boeing have determined that the corrective measure for OA-11, which primarily consists of excavation of PCB-impacted soil, should be performed in summer 2016 as an interim measure to accelerate its schedule. Accelerating this action will allow Boeing to complete property improvements necessary for storm water compliance in that part of Plant 2. Because the anticipated work constitutes cleanup of bulk PCB remediation waste under TSCA, the EPA has determined that the focused corrective action work at OA-11 should be jointly reviewed and approved under RCRA as an Interim Measure and under TSCA as an RBDA.

Development and implementation of the OA-11 Interim Measure is being conducted in a phased process. Previously, the EPA issued an RBDA to conduct additional characterization sampling to supplement historical characterization data (Reference 3). This work was performed to refine the anticipated scope of cleanup, and to obtain data to be used for purposes of segregating contaminated soils for purposes of disposal. This work was also performed to obtain data that could be used to demonstrate compliance with proposed Final Media Cleanup Levels (FMCLs) where anticipated construction activities would preclude excavation sidewall sampling following Interim Measures construction. Based on the October 2014 FCMS noted above and results of work conducted under the additional characterization approval, Boeing developed an Interim Measures work plan for OA-11 (Reference 9). This Interim Measures work plan was provided to the EPA by Boeing as the basis for its application for an RBDA (Reference 8).

## The EPA's Evaluation of Boeings Risk-Based Disposal Approval Application

In evaluating Boeing's request for an RBDA, the EPA has considered the following issues:

- Relationship to the RCRA Corrective Action Process;
- Summary of TSCA Requirements;
- Scope of the requested approval;
- Specific elements of the cleanup project.

**Relationship to the RCRA Corrective Action Process**

As noted in the Introduction section, all aspects of cleanup at the Boeing Plant 2 facility are being managed as corrective actions under RCRA through the Boeing Order. Pursuant to this authority, Boeing has performed site characterization as necessary to document the nature and extent of contamination in the project area, and has identified OA-11 interim measures necessary to protect human health and the environment. Corrective action under the Boeing Order addresses any hazardous waste as defined in Section 1004(5) of RCRA, which includes PCBs.

**Summary of TSCA requirements**

As discussed in the section "Scope of the Requested Approval," soils, structures and debris within the project area are generally considered to meet the definition of PCB remediation waste, and are subject to the requirements for sampling, cleanup and disposal of PCB remediation waste at 40 C.F.R. § 761.61. Under 40 C.F.R. § 761.61, spills or releases of PCBs may be cleaned up using the self-implementing procedures of 40 C.F.R. § 761.61(a), PCB remediation waste may be disposed of (or in some cases, managed) under the performance-based standards of 40 C.F.R. § 761.61(b), or the sampling, cleanup, storage and disposal of PCB remediation waste may be conducted under a risk-based disposal approval issued by the EPA pursuant to 40 C.F.R. § 761.61(c). With respect to the OA-11 additional characterization work and expected interim measures, the self-implementing authority of 40 C.F.R. §761.61(a) is applicable. However, for purposes of optimizing work requirements and to assist in fully harmonizing the requirements under RCRA and TSCA applicable to this project, Boeing is electing to seek approval of more practicable requirements under the risk-based disposal authority of 40 C.F.R. §761.61(c). In some instances, decontamination of PCB remediation waste and water that has been in contact with PCB remediation waste may be accomplished according to decontamination standards and authorization at 40 C.F.R. § 761.79.

**Scope of the requested approval**

Under TSCA, soils and structures within the project scope that have been impacted by PCBs satisfy the definition of "PCB Remediation Waste" at 40 C.F.R. § 761.3. This definition includes the following elements:

- Materials disposed of prior to April 18, 1978 that are currently at concentrations ≥ 50 ppm PCBs, regardless of the concentration of the original spill;

- Materials which are currently at any volume or concentration where the original source was ≥ 500 ppm PCBs beginning on April 18, 1978, or ≥ 50 ppm PCBs beginning on July 2, 1979; and

- Materials which are currently at any concentration if the PCBs are spilled or released from a source not authorized for use under [40 C.F.R Part 761].

The TSCA regulations include a provision at 40 C.F.R. 761.50(b)(3)(iii) that states:

> "The owner or operator of a site containing PCB remediation waste has the burden of proving the date that the waste was placed in a land disposal facility, spilled, or otherwise released into the environment, and the concentration of the original spill."

Boeing's RBDA application does not provide documentation of either the source concentration or the date(s) of spills or releases that have impacted the DSOA project area. In these circumstances, the EPA conservatively assumes that all media/materials affected by a spill or release meet the definition of PCB remediation waste, and must be cleaned up and disposed of according to the requirements of 40 C.F.R. § 761.61. On this basis, the EPA considers all soils and structures subject to cleanup under the Boeing Order within the OA-11 project area to meet the definition of PCB remediation waste, and subject to requirements of this approval.

As an interim measure, the OA-11 excavation project is limited to excavating soils as necessary to achieve compliance with proposed final media cleanup levels. While this action is expected to achieve a substantial source term reduction of PCBs which may adversely affect groundwater quality, this interim action is not intended in of itself to establish or demonstrate compliance with groundwater cleanup levels for PCBs. Rather, groundwater final media cleanup standards for PCBs, and the analysis and selection of alternatives for achieving them will be included in the final corrective action decision for Boeing Plant 2, and an expected parallel final cleanup decision in the form of an RBDA under TSCA. While the interim measures risk-based disposal action is focused only on achieving compliance with proposed FMCLs for soils, the interim measures are expected to achieve a substantial source term reduction of PCBs, such that additional soil excavation is not expected to be necessary under final corrective measures to achieve compliance with groundwater cleanup requirements.

**Specific elements of the cleanup project**

OA-11 project activities subject to the requirements of 40 C.F.R. § 761.61 can be generally divided into the following categories:

- Initial characterization for purposes of defining the nature and extent of contamination;
- Additional characterization to facilitate segregation of materials for disposal and to further refine the excavation limits;
- Cleanup levels;
- Developing, assessing, and selecting interim measures alternatives, and selection of cleanup levels;
- Excavation of contaminated soils and structures;
- Conducting post-excavation sampling to verify satisfaction of cleanup levels;
- Final disposal of soils and structures contaminated with PCBs at as-found concentrations $\geq$ 50 ppm;
- Material handling and final disposal of soils and structures with PCBs at as-found concentrations $<$ 50 ppm;
- Management of contaminated groundwater and decontamination water;
- Backfilling and site restoration;

- Decontamination of structures and equipment in contact with PCB remediation waste during cleanup activities.

Work associated with the first two bullet items was completed under the Additional Characterization risk-based disposal approval, Reference 3, the results of which are discussed below. The following section provides an overview and evaluation of each of the project activities in the remaining categories identified above, the specific TSCA regulatory authority that authorizes work within each category, and for work subject to this RBDA, the principle source of requirements used by the EPA to establish specific requirements under the RBDA. In presenting this overview, the EPA notes that all regulatory requirements identified in the table are in addition to requirements of the Boeing Order.

Initial characterization for purposes of defining the nature and extent of contamination

A general description of past investigations and cleanup activities that have occurred within the project area is provided in the FCMS for OA-11 (Reference 2), as well as a discussion of the nature and extent of PCB contamination as determined from these studies. Characterization of the nature and extent of PCB contamination for purposes of evaluating, selecting, and verifying completion of the soils interim measures has been completed as part of the RCRA corrective action process under the Boeing Order. The EPA accepts the results of this work as meeting in part the no unreasonable risk standard for cleanup of PCB remediation waste under 40 C.F.R. § 761.61(c).

Additional characterization to facilitate segregation of materials for disposal and to further refine the excavation limits

As documented the Additional Characterization Work Plan (Reference 4), existing characterization data provide sufficient details to document the horizontal and vertical extent of PCB contamination, proposed excavation limits, material handling requirements, and post-construction monitoring and verification sampling requirements. Extensive testing of soil in the area of OA-11 shows that PCBs and total petroleum hydrocarbons (TPH) are the chemicals of concern for OA-11.

As discussed in the Additional Characterization RBDA SOB (Reference 3), Boeing proposed and completed two rounds of focused soil sampling to facilitate construction planning, including waste characterization and profiling, and to assist with further delineation of the excavation limits. In particular, these sampling activities were intended to define those soils, which contain as-found concentrations of PCBs greater than or equal to 50 ppm, which will be segregated for disposal in a hazardous or chemical waste landfill. These sampling activities were also intended to document compliance with proposed FMCLs on a pre-excavation basis in areas of the proposed excavation not expected to be accessible for sampling during construction due to the expected use of trench boxes to during excavation.

The first round of sampling was conducted between June 13 and 15, 2016, as documented in Technical Memorandum Work Plan dated June 10, 2016. Based on results from this first round of sampling, Boeing determined the proposed scope of excavation needed to be somewhat expanded to provide assurance that all soils with PCBs above the proposed FMCLs would be removed. To provide documentation that the expanded scope of excavation would provide this assurance, Boeing proposed a second round of field sampling as an addendum to the Technical Memorandum Work Plan (Reference 6), which included a proposed expanded excavation scope. This Work Plan Addendum also proposed a number of additional samples to further delineate soils with as-found concentrations greater than or

equal to 50 ppm to assist with segregation of excavated soils for final disposal. The EPA accepted the July 6 Technical Memorandum Work Plan Addendum as a supplement to the initial Technical Work Plan dated June 10, 2016.

Field work corresponding to the Technical Memorandum Work Plan Addendum was completed on July 8, 2016. Results from this second round of field sampling activities confirmed that the proposed expanded excavation scope would provide the needed assurance of ensuring all soils with PCB concentrations greater than the proposed final media cleanup levels would be removed, and that sufficient information is available to allow segregation of soils during excavation for disposal in a hazardous/chemical waste landfill versus a RCRA Subtitle D/municipal waste landfill.

Both initial and additional characterization work and their corresponding results are further described in Sections 3.0 and 4.0 of the Interim Measures Work Plan (Reference 9). The EPA notes that while these sections of the Interim Measures work plan includes a discussion of the nature and extent of contamination in OA-11 groundwater, this RBDA is limited to soil cleanup. Under this RBDA, the EPA is not making any decision regarding the nature and extent of groundwater contamination, any groundwater cleanup actions that may be required, including but not limited to institutional or engineering controls or groundwater monitoring. The EPA considered the nature and extent of PCB contamination of groundwater associated with OA-11 only for purposes of establishing that the approved soil removal actions are expected to achieve a substantial reduction in source PCBs that are likely to have contributed to documented detections of PCBs in groundwater associated with the OA-11 footprint. Ground water elements of OA-11 will be considered as part of the final Boeing Plant 2 corrective action decision under the Boeing Order, and with respect to PCBs and an expected parallel final cleanup decision in the form of an RBDA under TSCA.

With respect to sampling of bulk PCB remediation waste for purposes of defining the extent of excavation, verifying in part completion of excavation, and for providing data to be used for segregation of soils for purposes of disposal, the EPA accepts the work discussed above as meeting the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Cleanup levels

As documented in Section 2.2 of the Interim Measures work plan, proposed FMCLs have been developed over the last several years as part of the RCRA CMS Process for the uplands at Plant 2, and are not specific to OA-11. The proposed FMCLs have been developed jointly with the EPA Region 10 for the uplands at Plant 2 as part of the RCRA Order; they were jointly revised in 2015 to incorporate changes in toxicity, exposure, and partitioning factors and promulgated standards. Details on the development of the FMCLs are presented in Section 2.0 of the CMS Report and associated attachments. Final approval of FMCLs will occur after the RCRA Statement of Basis public notice process and after final review and comment, with final remedy selection, which is expected in 2017. While not final, the proposed FMCLs are adequate for verifying completion of interim measures.

Under the RCRA corrective action process, the proposed soil FMCL for PCBs has been set at 10 parts per million (ppm), with a point of compliance being from the surface to a depth of 11 feet, based on the industrial land use associated with the Plant 2 facility. This proposed FMCL is consistent with the low-occupancy cleanup level for PCBs under the self-implementing cleanup standards of 40 C.F.R. § 761.61(a), although established in this approval under the authority of 40 C.F.R. § 761.61(c). For purposes of achieving a substantial reduction in the source of PCBs that may adversely affect

groundwater, this FMCL is being applied below the 11 foot depth to remove all PCBs documented at greater depths to the extent technically practicable. The EPA notes that the final corrective action decision under the Boeing RCRA Order is expected to include a consideration of such institutional and engineering controls as necessary to be protective of human health and the environment. The EPA will evaluate these institutional and engineering controls with respect to the TSCA no unreasonable risk standard of 40 C.F.R. § 761.61(c) with respect to PCBs in an expected parallel RBDA. See also Section 2.2.1 of the Interim Measures work plan (Reference 9).

The EPA notes that while the Interim Measures work plan includes a discussion of constituents of concern, cleanup levels, and point of compliance for OA-11 groundwater, this RBDA is limited to soil cleanup levels. Ground water elements of OA-11 will be considered as part of the final Boeing Plant 2 corrective action decision under the Boeing Order, and with respect to PCBs, an expected parallel RBDA.

With respect to proposed FMCLs applicable to soil interim measures, the EPA has determined that they meet the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Developing, assessing, and selecting among remedial alternatives

Section 5.0 of the Interim Measures Work Plan (Reference 9) discusses available cleanup options, and the basis for selection of the removal option that is the basis for the proposed interim measures. The Work Plan identifies both containment and removal options. Noting that given the relatively easy access to the site for excavation, and the presence of PCBs at relatively high concentrations, and the relatively small volume of impacted soils, the containment option is not further considered in the Work Plan. The interim measures, therefore, are based on the removal option.

With respect to the method of cleanup for soil interim measures, the EPA accepts the work discussed above as meeting the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Excavation of contaminated soils and structures

Section 6 of the Interim Measures work plan (Reference 9) describes the approach to soil excavation, with further details documented in the OA-11 PCB Excavation and Dewatering Plan (Reference 9). The initial vertical and horizontal excavation limits are those based on historic characterization data supplemented by additional characterization data obtained under the previous OA-11 RBDA. During excavation, soil samples will be collected from the base and accessible sides of the excavation to supplement existing confirmation data to document the remaining concentrations, as documented in Section 7.2 of the Interim Measures work plan. Additional excavation will occur if needed to achieve compliance with the 10 ppm proposed FMCL on the unsaturated sidewalls. Within the saturated zone, achievement of the10 ppm standard will be also be targeted, depending on the technical feasibility of extending the excavation deeper. The excavation may be deepened in the field below 15 feet if it is safe and practicable to do so.

Because the PCB release associated with the Area of Discovery (refer to Section 1.3.1 in the Interim Measures work plan) in OA-11 is very close to the property line between Boeing and the Jorgensen Forge facility immediately to the south, the EPA and Boeing have agreed to an administrative boundary that establishes that cleanup of the release will proceed onto the Jorgensen property as needed to reach cleanup levels as far as the first of the property line outfall pipes (the 12-inch-diameter pipe). Should

PCB contamination originating from the OA-11 Area of Discovery source onto Jorgensen property extend further than the 12-inch-diameter pipe, the EPA believes that it would be appropriate to make additional cleanup decisions that may impact the 12-inch-diameter pipe through the CERCLA process. The EPA's rationale for establishing this administrative boundary is that the EPA CERCLA program has already addressed cleanup and capping of the two abandoned storm water pipes on Jorgensen property parallel to the property line, and extension of the OA-11 interim measure excavation could disturb at least the 12-inch-diamater pipe. Specific decisions on the extent of excavation that will be conducted on Jorgensen property beyond that documented in the Interim Measures work plan will be made at the project manager level consistent with this general principle.

The EPA notes that surface paving and concrete structures exclusive of the former Seattle City Light substation and the adjacent concrete trough between the substation and the Boeing/Jorgensen property line have not been impacted by spills or releases of PCBs. Excavation, recycling or disposal of these materials are not considered subject to this approval as they do not meet the definition of PCB remediation waste. Concrete from the former substation and adjacent trough do meet the definition of PCB remediation waste, and will be excavated and disposed of in a Subtitle D landfill based on existing characterization data.

Historic and additional characterization data did not include data pertaining to two former crane support structures within the proposed excavation areas that are scheduled for removal. Via e-mail of August 29, 2016 (Reference 11), sampling data were presented indicating detectable PCBs below 10 ppm in paint on these structures. Therefore, the two former crane support structures will be removed and disposed of in a Subtitle D landfill rather than being recycled.

With respect to the proposed methods for excavation of contaminated soils and structures, the EPA accepts that the work discussed above meets the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Conducting post-excavation sampling to verify satisfaction of cleanup levels

Sampling and analysis activities for demonstrating compliance with proposed FMCLs are documented in Section 7 of the Interim Measures work plan, along with associated quality assurance/quality control activities and requirements. Verification samples are proposed for both sidewall and bottom areas of the proposed excavation.

The proposed method of excavation is based on use of trench shoring "boxes" to ensure that exposed excavation sidewalls do not collapse into the excavation. When using this method of excavation, it is not practicable to obtain sidewall samples where access is blocked by the shoring device. To accommodate this constraint, the additional characterization sampling work conducted under the previous OA-11 RBDA obtained pre-excavation data that will be used to document in part compliance with proposed FMCLs at such sampling locations.

Sampling and analysis activities for disposal segregation of concrete storm drain infrastructure components that were not previously sampled during additional characterization sampling activities and that will be removed as part of interim measures are also discussed. For these samples, the decision criteria is the 50 ppm standard used to distinguish Subtitle C versus Subtitle D disposal requirements.

With respect to interim measures sampling and analysis requirements for verification of compliance with proposed FMCLs, and for concrete storm drain infrastructure disposal segregation, the EPA has

determined that the proposed activities and criteria meet the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Final disposal of soils and structures contaminated with PCBs at as-found concentrations ≥ 50 ppm

The self-implementing cleanup requirements of 40 C.F.R. § 761.61(a) provide authorization to dispose of bulk PCB remediation waste with PCB concentrations > 50 ppm in a hazardous waste landfill permitted by the EPA under section 3004 of RCRA or by a State authorized under section 3006 of RCRA, or in a PCB disposal Facility approved under 40 C.F.R. Part 761. Since this cleanup is not being conducted as a self-implementing cleanup, the provisions of 40 C.F.R. § 761.61(a) are not directly applicable; however, disposal of >50 ppm bulk PCB remediation waste in a manner consistent with the requirements of 40 C.F.R. § 761.61(a) is appropriate for this project, and the EPA is incorporating these disposal requirements into this risk-based disposal approval under the authority of 40 C.F.R. § 761.61(c).

Because Boeing is proposing to direct load contaminated soils with as-found concentrations ≥ 50 ppm directly into rail transport containers, no on-site storage or other handling provisions are documented in the Interim Measures work plan or authorized under this approval.

With respect to disposal requirements for soils and structures contaminated with PCBs at as-found concentrations, ≥ 50 ppm, the EPA finds that the requirements discussed above meet the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Material handling and final disposal of soils and structures with PCBs at as-found concentrations < 50 ppm

The self-implementing cleanup requirements of 40 C.F.R. § 761.61(a) provide authorization to dispose of bulk PCB remediation waste with PCB concentrations < 50 ppm in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Since this cleanup is not being conducted as a self-implementing cleanup, the provisions of 40 C.F.R. § 761.61(a) do not apply. However, disposal of< 50 ppm bulk PCB remediation waste is nevertheless appropriate for this project, so the EPA is providing the same authorization through this risk-based disposal approval under the authority of 40 C.F.R. § 761.61(c).

Because a portion of contaminated soils to be cleaned up as part of the interim measures may occur within the saturated zone, Boeing has proposed in-situ dewatering, and if necessary, addition of absorbents to ensure that soils will not have free liquids when loaded into transport containers for disposal. These activities are documented in OA-11 PCB Excavation and Dewatering Plan (Reference 9). Excavation is proposed to proceed in a phased manner, such that soils within the saturated zone can be temporarily placed within the overall area of excavation for gravity dewatering. Where necessary, absorbents (e.g., cement kiln dust) can be added to ensure soils do not contain free liquids when loaded into transport trucks for disposal.

While most contaminated soils will be directly loaded into transport vehicles for disposal, it may be necessary to temporarily stockpile soils on-site, as well as concrete structures that must be sampled for disposal segregation. The OA-11 PCB Excavation and Dewatering Plan documents the design and construction of stockpile areas. These stockpiles will provide adequate containment and weather

protection for those soils and materials that need to be temporarily managed on-site before being transported off-site for disposal.

The EPA has determined that the material handling and disposal requirements outlined above soils and structures with PCBs at as-found concentrations < 50 ppm meet the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Management of contaminated groundwater and decontamination water

Because a portion of excavation work associated with OA-11 interim measures will be conducted within the saturated soil zone, dewatering the excavation may be necessary to reach impacted soils below the water table. In addition, capacity for the collection, temporary storage, and decontamination of groundwater that has been in contact with PCB remediation waste will be needed. Boeing has provided an outline of proposed activities for dewatering of the excavation necessary to access soils within the saturated zone, and for associated collection, storage and decontamination activates in the Excavation and Dewatering Plan (Reference 10). Boeing proposes use of one or more settling tanks.

Water will be collected and stored in a settling tank, or additional ones if needed, located within the exclusion zone. Secondary containment and spill berms will be placed around the tank(s). Water will be collected and then sampled for contaminants of concern by Floyd Snider. Collected water may then be managed through one of several options for decontamination and eventual discharge:

- Option A: Under this preferred option, water will be transferred to the Boeing Field PCB Treatment System, operated by Boeing. Using this system, water will be decontaminated as necessary to meet discharge limits established by King County for discharge to the sanitary sewer system. The Excavation and Dewatering Plan includes a schematic process flow diagram for this treatment system, and a copy of the associated King County discharge authorization;
- Option B: If the Boeing system does not have capacity available for this project, water will be taken to the Marine Vacuum Services (Mar-Vac) facility in Seattle, Washington. The Excavation and Dewatering Plan contains a schematic process flow diagram for the Mar-Vac treatment system, and a copy of their discharge permit. In the likely event that collected OA-11 groundwater show detectable concentrations of PCBs, Boeing will perform pre-treatment of the water prior to transporting to Mar-Vac to meet their special authorization as described above. This pretreatment will consist of an additional batch tank and carbon filter. Water will pass through the carbon and then will be sampled in the batch tank before transporting to the Mar-Vac facility.

- Option C: In the event that the facilities associated with Options A or B are unavailable, or if the water generated is such a small quantity that treatment is cost prohibitive, Boeing may contract for off-site treatment and disposal at a permitted facility.

The EPA has determined that Option A can be exercised based on the decontamination standards of 40 C.F.R. § 761.79. This treatment system has been used in conjunction with a number of PCB projects, and has been shown capable of meeting associated county sanitary sewer discharge limits.

Similarly, Option B should be implementable under the same self-implementing regulatory provisions. Boeing's description of this option calls for sampling and analysis of collected groundwater, and if any detectable concentrations of PCBs are found, pre-treatment of the collected water prior to shipment to

the Mar-Vac facility. However, neither the Interim Measures work plan, nor the Excavation and Dewatering Plan contain a sampling and analysis plan, and the description of on-site pretreatment activities are not sufficient for the EPA to determine whether or not activities associated with sampling or pre-treatment meet the no unreasonable risk standard. The EPA has established Condition 4 of this approval accordingly.

Option C is potentially acceptable. However, Boeing's application does not provide sufficient detail to determine whether or not a "permitted" facility has the necessary capability to perform decontamination in compliance with the requirements of 40 C.F.R. § 761.79. EPA has established Condition 4 of this approval accordingly.

Boeing has indicated that prior to transfer of aqueous PCB remediation waste under any of the three options above, it may be necessary to sample such wastes to determine whether pretreatment is necessary to ensure compliance with the receiving unit/facility acceptance criteria, and to provide other information required by the discharge or other applicable permit. These sampling requirements are discussed in the section entitled "Water Treatment & Discharge" in the Excavation and Dewatering Plan, Reference 10.

Based on the above analysis, the EPA has determined that the proposed approach for management of contaminated groundwater and decontamination water can be conducted in compliance with the requirements of 40 C.F.R. § 761.79 and in compliance with the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

Backfilling and site restoration

These activities are documented in Section 6.6 and Figure 6.4 of the Interim Measures work plan. For purposes of conducting and completing interim measures, the EPA has determined that the proposed backfilling and site restoration activities meet the no unreasonable risk standard of 40 C.F.R. § 761.61(c). The EPA will make a final evaluation of restoration activities such as surface paving and storm water controls as part of the final RCRA corrective measures decision and expected concurrent TSCARBDA.

Decontamination of structures and equipment in contact with PCB remediation waste during cleanup activities

Although PCB remediation waste with PCB concentrations < 50 ppm expected to be managed as part of the approved interim measures are not subject to the storage for disposal requirements of 40 C.F.R. § 761.65 or the corresponding closure requirements, appropriate cleanup or decontamination of structures and equipment that may come in contact with PCB remediation waste is necessary to ensure that the overall project does not pose an unreasonable risk of injury to health or the environment. The EPA is establishing a "clean debris surface" as the performance standard for decontamination of equipment and structures in contact with PCB remediation waste, "borrowing" this standard from the alternate treatment standards for hazardous debris under the RCRA Land Disposal Restriction program. The EPA is establishing this standard under the TSCA authority of 40 C.F.R. § 761.61(c), and in doing so, is not making any assertion that PCB remediation waste, or equipment or structures in contact with it, under this approval is subject to RCRA land disposal restriction treatment standards.

Particulars of decontamination activities and management of decontamination residues are discussed in Section 6.8 of the Interim Measures work plan.

The EPA has determined that the documented decontamination activities and standards meet the no unreasonable risk standard of 40 C.F.R. § 761.61(c).

**Discussion of Conditions**

1. Boeing is authorized to perform cleanup, verification sampling, and disposal of bulk PCB remediation waste associated with the Other Area-11 (OA-11), as documented in Boeing's RBDA application and Interim Measures work plan (References 8 and 9), the "OA-11 PCB Excavation and Dewatering Plan," (Reference 10), and as approved by the EPA under the Boeing Order (Reference 1). This authorization is limited to those elements of the Interim Measures work plan related to cleanup of contaminated soils and storm water infrastructure, and is exclusive of those elements of the Interim Measures work plan related to cleanup of groundwater, including but not limited to selection of or verification of compliance with groundwater cleanup standards, or those elements related to institutional or engineering controls that may be selected as part of final corrective measures for OA-11. Work under this approval must be completed within six (6) months of the date of the approval. Boeing may request an extension to these dates pursuant to Condition 12. This approval will remain in effect with respect to work subject to the requirements of 40 C.F.R. § 761.61 and § 761.79 until issuance of the expected final RBDA for OA-11 corrective measures.

This condition provides overall approval for the proposed interim measures. The EPA notes that this approval does not finalize proposed final media cleanup levels (FMCLs) – that will be accomplished through RCRA approval following public notice of the corrective measures Statement of Basis, subsequent to completion of the additional characterization work. Similarly, this approval does not speak to any elements of groundwater cleanup that may be necessary under the Boeing RCRA Order, which will be addressed as part of the final corrective measures decision for OA-11. As discussed in the Statement of Basis, the EPA expects to make a parallel decision on final cleanup requirements for OA-11 under TSCA in coordination with the RCRA final corrective measures decision. Should approved FMCLs or final corrective measures be substantially different than the approved interim measures, EPA may require new or additional work to be completed as part of final corrective measures.

The EPA is establishing a six-month period for completion of all work required under this approval to ensure that the work is completed in a timely manner.

2. Boeing is authorized to dispose of bulk PCB remediation waste, including debris, with PCB concentrations < 50 ppm, as well as cleanup wastes as described at 40 C.F.R. § 761.61(a)(5)(v), in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable.

3. Boeing is authorized to dispose of bulk PCB remediation waste, including debris, with as-found PCB concentrations ≥ 50 ppm in a hazardous waste landfill permitted by the EPA under section 3004 of RCRA, or by a State authorized under section 3006 of RCRA, or a PCB disposal facility approved under 40 C.F.R. Part 761.75.

Although 40 C.F.R. § 761.61(a) provides similar authorizations for bulk PCB remediation waste generated from self-implementing cleanups, this project is not being conducted under the authority of 40 C.F.R. § 761.61(a). Nevertheless, these methods of final disposal are appropriate for PCB remediation waste to be generated by this project, so the EPA is establishing the disposal authorizations in these Conditions under the risk-based disposal approval authority of 40 C.F.R. § 761.61(c). The EPA is also including in this provision authorization for disposal of cleanup wastes, such as personal protective equipment and other contaminated equipment associated with sampling activities.

4. All aqueous PCB remediation waste, including but not limited to groundwater in contact with bulk PCB remediation waste subject to cleanup under this approval, must be managed according to one of the following options:

    - Collected and transferred to the Boeing Field PCB Treatment System, operated by Boeing for decontamination and discharge to the King County sanitary sewer system;

    - Collected and shipped via Department of Transportation-compliant containers or tank trucks to the Marine Vacuum Services (Mar-Vac) facility in Seattle, Washington for decontamination and discharge to the King County sanitary sewer system. Boeing must provide the EPA with a copy of any sampling and analysis plans, including project-specific quality assurance/quality control requirements, associated with this option at least seven (7) calendar days prior to exercise of this option. Boeing must provide EPA with a schematic-level description of any pre-treatment system, including secondary containment, and obtain project manager approval prior to use of any pre-treatment system;

    - Collected on-site and shipped via Department of Transportation-compliant containers or tank trucks to an off-site Facility other than Mar-Vac for decontamination as required and discharged pursuant to 40 C.F.R. § 761.79(b)(1)(ii) or (iii). Prior to exercise of this option, Boeing must provide the EPA with a copy the receiving facility's discharge authorization.

This condition provides authorization to manage contaminated groundwater and other aqueous remediation waste generated as part of approved interim measures. While none of the final treatment/disposal options (Boeing Field PCB treatment system, the Mar-Vac facility, or an alternate off-site facility) are directly subject to this approval, the EPA has determined that treatment and disposal of aqueous PCB remediation waste at these various facilities will meet the no unreasonable risk standard that applies to the approved interim measures. Actual treatment at these facilities will be considered decontamination of PCB remediation waste, subject to the requirements of 40 C.F.R. § 761.79. As noted in the following condition, all decontamination conducted pursuant to this approval must be in compliance with the requirements of 40 C.F.R. 761.79(e)-(g).

5. All equipment and structures that have been in contact with liquid or non-liquid PCB remediation waste subject to this approval must be disposed of or decontaminated following the completion of work under this approval. All disposable equipment or materials must be disposed of in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Non-disposable equipment and structures must be decontaminated using mechanical means or pressure washing to achieve a "clean debris surface" as defined in 40 C.F.R. § 268.45, Table 1, footnote 3.

Boeing will ensure that any decontamination conducted pursuant to this approval will be in compliance with the requirements of 40 C.F.R. 761.79(e)-(g).

This condition ensures that all equipment, such as excavation and sampling equipment are appropriately managed during and following completion of approved interim measures.

6. No later than 60 days following completion of field work, Boeing must provide the EPA with a written project completion report documenting compliance with requirements of this approval. This requirement may be satisfied in whole or part with reporting requirements applicable under the Boeing RCRA Order (Reference 1).

This condition ensures that documentation is available that provides a record for the EPA to evaluate compliance with requirements of this approval.

7. Boeing will ensure that all field work associated with this project conducted by Boeing or contractors is conducted under written site-specific health and safety plans. Boeing will ensure that these plans document appropriate training and personal protective equipment required for all personnel that may be exposed to PCBs during work associated with this project. Boeing will make available copies of such plans to the EPA upon request.

This condition ensures that work will be conducted in a safe manner that meets the no unreasonable risk standard of 40 C.F.R. § 761.61(c)

8. Boeing will ensure that a copy of this approval is provided to contractors responsible for conducting work subject to requirements of the approval. Boeing will ensure that any contracts it issues are consistent with the requirements of this approval. Boeing is responsible for ensuring compliance with this TSCA RBDA and all applicable requirements of 40 C.F.R. Part 761.

These condition emphasizes Boeing's responsibility for acts or omissions of its contractors, and that work conducted by Boeing's contractors is consistent with requirements of this approval.

9. Nothing in this approval relieves Boeing of any obligation to comply with the Boeing Order, any other the EPA or Ecology administrative action, or any statutory requirements, or rules or regulations applicable to the activities subject to this approval.

This condition establishes that this approval under TSCA does not relieve Boeing of any other obligation that it may have with respect to the approved activities.

10. Within seven (7) days following the effective date of this approval, Boeing will provide the EPA with written or e-mail notice of its project manager responsible for overall implementation of work subject to this approval. The initial the EPA TSCA project manager is identified in Condition 13. The respective project managers will be responsible for timely and routine communication regarding implementation of this approval, including notification pursuant to Condition 11. For matters otherwise reportable to the EPA RCRA project manager under the Boeing Order, concurrent notification via e-mail is acceptable and encouraged.

Based on experience during the first construction season for the Duwamish Sediments Other Areas (DSOA) project previously completed by Boeing under a separate RBDA, the EPA and Boeing

recognized the need for enhanced communication with respect to this approval based on a project management approach. The EPA is establishing this condition, as well as related language in Condition 11 below, to reflect this objective.

11. If at any time before, during, or after conduct of activities subject to this approval, Boeing possesses or is otherwise made aware of any data or information (including but not limited to site conditions that differ from those presented in the application) that activities approved herein may pose an unreasonable risk of injury to health or the environment, Boeing must report such data or information via facsimile or e-mail to the EPA within five (5) working days at the project manager level, and in writing to the Regional Administrator within thirty (30) calendar days of first possessing or becoming aware of such data or information. At his or her sole discretion, the EPA project manager may waive the written reporting requirement for those issues that are determined to be minor, or can be timely resolved without modification of this Approval. Boeing shall also report in the same manner, new or different information related to a condition or any element of the approved activities if the information is relevant to this approval. The EPA may direct Boeing to take such actions it finds necessary to ensure the approved storage activities do not pose an unreasonable risk of injury to health or the environment. Boeing shall follow such direction until written approval is obtained from the EPA that finds the condition(s) requiring such direction no longer poses an unreasonable risk of injury to health or the environment.

This condition ensures that if any information not available to the EPA at the time this approval is issued becomes known, it will be promptly made available to the EPA for purposes of ensuring that activities subject to this approval continue to pose no unreasonable risk of injury to health or the environment. This condition also ensures the EPA's ability to make changes to the storage activities, including withdrawing approval for storage, as necessary to ensure no unreasonable risk of injury to health or the environment.

12. The EPA reserves the right to modify or revoke this approval based on information provided pursuant to Condition 11, or any other information available to the EPA that provides a basis to conclude that activities covered by this approval pose an unreasonable risk of injury to health or the environment. Boeing may request modification of this approval by providing a written request to the EPA. If the EPA agrees with a request for modification, the EPA will provide written approval to Boeing. Prior to obtaining written approval of a modification request, Boeing shall comply with the existing approval conditions.

This condition establishes a mechanism whereby this approval may be modified by the EPA, either independently or upon request to the EPA.

Condition 13, not restated here, is self-explanatory.